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ELECTROPHORETIC IMAGE DISPLAY DEVICE

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Abstract: PURPOSE: To prevent the sepn. of a dispersion medium and dispersion particles over a long period of time by using a liquid contg. the colloidal particles of the metal oxide obtd. by converting the colloidal particles of a hydrophilic metal oxide by a surfactant to a lipophilic property and migrating the same into an org. solvent as a liquid electrophoretic dispersion.

CONSTITUTION: Chemical bonding takes place between the part of the positive charge of the colloidal particles of the hydrophilic metal oxide in a hydrosol and the dissociation group of the surfactant and the surfactant chemically absorbs its lipophilic group on the colloidal particles of the metal oxide toward a soln. side when a proper volume of the surfactant is added to the hydrosol. The colloidal particles of the metal oxide, therefore, has the lipophilic property and flocculate. The flocculated colloidal particles migrate into an org. solvent phase when the proper org. solvent is added thereto an the mixture is stirred. The colloidal particles of the metal oxide obtd. in such a manner are dispersed as primary particles and the colloidal particles having 0.03 to 0.3 μ m grain size are easily obtd. The liquid electrophoretic dispersion which does not generate the sepn. of the dispersion and the particles over a long period of time is utilized in this way and the long-term reliability is greatly improved.

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